

### **ABSTRACT**

A method of growing a SiC film within an MBE system is disclosed. The method includes charging a first crucible with a quantity of  $C_{60}$ , and coating a second crucible with a layer of SiC. The second crucible is charged with a quantity of solid Si. The crucibles are installed into first and second effusion cells which are placed within the MBE growth chamber. A substrate is prepared by cleaning and polishing and loaded into the MBE growth chamber. The substrate and effusion cells are heated and a layer of SiC is grown by MBE onto the substrate.